UNITED STATES DISTRICT COURT

NORTHERN DISTRICT OF CALIFORNIA

INTRI-PLEX TECHNOLOGIES, INC., Plaintiff, v. NHK INTERNATIONAL CORPORATION, et al., Defendants.	Case No. 17-cv-01097-EMC **PUBLIC/REDACTED VERSION** **ORDER DENYING DEFENDANTS' MOTION FOR SUMMARY JUDGMENT OF INVALIDITY** Docket No. 90

Plaintiff Intri-Plex Technologies, Inc. ("IPT") has sued multiple companies (namely, two NHK entities and two Seiko entities) for infringement of its '841 patent. The '841 patent is titled "Optimized Low Profile Swage Mount Base Plate Attachment of Suspension Assembly for Hard Disk Drive." As reflected by the title, the patent relates to hard disk drives ("HDDs"). More specifically, the patent concerns a component – known as a "base plate" – of a larger structure that is ultimately used to help in the writing data to and reading data from the HDD surfaces.

In February 2018, the Court issued its claim construction order with respect to the '841 patent. *See* Docket No. 77 (order). One of the parties' disputes concerned the term "low profile." The Court held that "low profile" – a term used only in the preamble of the relevant claims – was a limitation on the invention but found that specific construction of the term, including whether or not it was sufficiently definite, was not possible based on the record before it. *See* Docket No. 77 (Order at 15-16). Defendants now move for summary judgment on invalidity, arguing that there is no genuine dispute of material fact that the term "low profile" is indefinite, and thus the '841 patent invalid.

Having considered the parties' briefs and accompanying submissions, the oral argument of counsel, and all other evidence of record, the Court hereby **DENIES** Defendants' motion for

summary judgment. The Court further construes the term "low profile" as discussed below.

I. DISCUSSION

A. Legal Standard

Federal Rule of Civil Procedure 56 provides that a "court shall grant summary judgment [to a moving party] if the movant shows that there is no genuine dispute as to any material fact and the movant is entitled to judgment as a matter of law." Fed. R. Civ. P. 56(a). An issue of fact is genuine only if there is sufficient evidence for a reasonable jury to find for the nonmoving party. *See Anderson v. Liberty Lobby, Inc.*, 477 U.S. 242, 248-49 (1986). "The mere existence of a scintilla of evidence . . . will be insufficient; there must be evidence on which the jury could reasonably find for the [nonmoving party]." *Id.* at 252. At the summary judgment stage, evidence must be viewed in the light most favorable to the nonmoving party and all justifiable inferences are to be drawn in the nonmovant's favor. *See id.* at 255.

Where a defendant moves for summary judgment based on an affirmative defense (*i.e.*, an issue on which it bears the burden of proof), the defendant must establish "all of the essential elements of the . . . defense to warrant judgment in [its] favor." *Martin v. Alamo Cmty. College Dist.*, 353 F.3d 409, 412 (5th Cir. 2003) (internal quotation marks omitted; emphasis omitted); *see also Clark v. Capital Credit & Collection Servs.*, 460 F.3d 1162, 1177 (9th Cir. 2006) (noting that a defendant bears the burden of proof at summary judgment with respect to an affirmative defense).

Here, Defendants' claim of indefiniteness is an affirmative defense. Defendants have the burden of proving the essential elements of indefiniteness by clear and convincing evidence. *See Titan Tire Corp. v. Case New Holland, Inc.*, 566 F.3d 1372, 1376 (Fed. Cir. 2009) (stating that, because "an issued patent comes with a statutory presumption of validity under 35 U.S.C. § 282 . . . , an alleged infringer who raises invalidity as an affirmative defense has the ultimate burden of persuasion to prove invalidity by clear and convincing evidence").

B. General Law on Indefiniteness

> The Patent Act requires inventors to claim their invention in "full, clear, concise, and exact terms." 35 U.S.C. § 112. This

> indefiniteness requirement is "part of the delicate balance the law attempts to maintain between inventors, who rely on the promise of the law to bring the invention forth, and the public, which should be encouraged to pursue innovations, creations, and new ideas beyond the inventor's exclusive rights." *Festo Corp. v. Shoketsu Kinzoku Kogyo Kabushiki Co.*, 535 U.S. 722, 731 (2002). This balance recognizes that all claims suffer from "the inherent limitations of language," but also that claims must "be precise enough to afford clear notice of what is claimed." *Nautilus, Inc. v. Biosig Instruments, Inc.*, 134 S. Ct. 2120, 2128-29 (2014). This balance permits "[s]ome modicum of uncertainty" to "ensur[e] the appropriate incentives for innovation," but it also provides a "meaningful definiteness check" to prevent patent applicants from "inject[ing] ambiguity into their claims." *Id.* (internal quotations omitted). Recognizing this balance, the Supreme Court articulated the test for indefiniteness as "*requir[ing] that a patent's claims, viewed in light of the specification and prosecution history, inform those skilled in the art about the scope of the invention with reasonable certainty*." *Id.* at 2129. This test "mandates clarity, while recognizing that absolute precision is unattainable."

One-E-Way, Inc. v. ITC, 859 F.3d 1059, 1062-63 (Fed. Cir. 2017) (emphasis added); *see also Takeda Pharm. Co. v. Mylan Inc.*, No. 13-CV-04001-LHK, 2014 U.S. Dist. LEXIS 159527, at *13-14 (N.D. Cal. Nov. 11, 2014) (noting that, prior to *Nautilus*, "the Federal Circuit applied an 'insolubly ambiguous' standard to indefiniteness questions" but "the Supreme Court rejected the insolubly ambiguous standard and replaced it with a 'reasonable certainty' standard").

Notably,

> [w]hen a "word of degree" is used, the court must determine whether the patent provides "some standard for measuring that degree." . . . Claim language employing terms of degree has long been found definite where it provided enough certainty to one of skill in the art when read in the context of the invention.

Biosig Instruments, Inc. v. Nautilus, Inc., 783 F.3d 1374, 1378 (Fed. Cir. 2015) (quoting *Enzo Biochem, Inc. v. Applera Corp.*, 599 F.3d 1325, 1332 (Fed. Cir. 2010)). "[A] term of degree fails to provide sufficient notice of its scope if it depends 'on the unpredictable vagaries of any one person's opinion.'" *Interval Licensing LLC v. AOL, Inc.*, 766 F.3d 1364, 1371 (Fed. Cir. 2014) (noting that the term "unobtrusive manner" is "highly subjective").

Whether a claim is indefinite or definite is a question of law. *See DDR Holdings, LLC v. Hotels.com, L.P.*, 773 F.3d 1245, 1260 (Fed. Cir. 2014). But while "[i]ndefiniteness is . . . a legal determination arising out of the court's performance of its duty construing the claims," "definiteness . . . is amenable to resolution by the jury where the issues are factual in nature." *BJ*

Servs. Co. v. Halliburton Energy Servs., 338 F.3d 1368, 1372 (Fed. Cir. 2003); *see also Alfred E. Mann Found. for Sci. Research v. Cochlear Corp.*, 841 F.3d 1334, 1341 (Fed. Cir. 2016) (stating that "[t]he ultimate determination of indefiniteness is a question of law that we review de novo, although any factual findings by the district court based on extrinsic evidence are reviewed for clear error"); *Dow Chem. Co. v. NOVA Chems. Corp. (Can.)*, 809 F.3d 1223, 1226 (Fed. Cir. 2015) (stating that "[w]e have consistently permitted courts to submit legal questions which contain underlying factual issues, like obviousness, enablement, or indefiniteness, to the jury").

C. IPT's Arguments

IPT opposes Defendants' summary judgment motion on two main grounds: (1) the motion is premature and (2) Defendants have not met their burden of proving indefiniteness by clear and convincing evidence. With respect to the latter, IPT argues that "the evidence of record unequivocally shows that a person of ordinary skill in the art would understand [the term 'low profile'] with reasonable certainty," Opp'n at 1, but, at the very least, there is a genuine dispute of material fact as to whether one of ordinary skill in the art would understand the scope of the term with reasonable certainty. Each argument is addressed below.

D. Rule 56(d)

IPT's first argument is that the summary judgment motion is premature. In evaluating this argument, the Court begins with Rule 56(d), which provides that, "[i]f a nonmovant shows by affidavit or declaration that, for specified reasons, it cannot present facts essential to justify its opposition [to the summary judgment motion]," a court has several options. Fed. R. Civ. P. 56(d). The court may "defer considering the motion or deny it," "allow time to obtain affidavits or declarations or to take discovery," or "issue any other appropriate order." *Id.*

Here, IPT has not provided an affidavit or declaration as to why it cannot present facts essential to justify its opposition to the summary judgment motion. Rather, it has simply provided argument on the issue. For that reason alone, the Rule 56(d) argument should arguably be rejected.

In any event, on the merits, IPT's argument is problematic. IPT asserts that more discovery is needed on the issue of indefiniteness, particularly as fact discovery, let alone expert

discovery, has not been completed. IPT admits that it has taken the deposition of Dr. Bogy, the expert who submitted a declaration in support of Defendants' summary judgment motion. *See* Opp'n at 3. But IPT contends that it needs to do follow-up work based on that declaration and/or deposition. *See* Opp'n at 5-6. However, it is far from clear that the follow-up work desired by IPT is *essential* in order for it to mount an opposition to the summary judgment motion. Indeed, that IPT also included substantive argument in its opposition brief – substantial argument at that, including argument based on its own expert's declaration – indicates that the follow-up work is not essential. Accordingly, the Court focuses on the merits – *i.e.*, whether Defendants have met their burden of proving indefiniteness by clear and convincing evidence.

E. Indefiniteness

As indicated above, a patent claim is indefinite if, when "read in light of the specification delineating the patent, and the prosecution history, [the claim] fail[s] to inform, with reasonable certainty, those skilled in the art about the scope of the invention." *Nautilus*, 134 S. Ct. at 2120. Although *Nautilus* makes reference to intrinsic evidence (*i.e.*, the patent specification and prosecution history), a court may consider extrinsic evidence in ascertaining the knowledge of those skilled in the art. *Cf. BASF Corp. v. Johnson Matthey Inc.*, 875 F.3d 1360, 1365 (Fed. Cir. 2017) (stating that "any factual findings about extrinsic evidence relevant to the question [of indefiniteness], such as evidence about knowledge of those skilled in the art, are reviewed for clear error").

In the instant case, both parties have provided extrinsic evidence – *i.e.*, expert testimony – because the intrinsic evidence is limited. All that the intrinsic evidence reflects is as follows:

- That a base plate with a height of 0.419 mm is considered low profile. This is established by the '841 specification which provides "typical invention dimension[s]." '841 patent, col. 4:1-17) (reflecting the following typical invention dimensions: base plate thickness of 0.150 mm and hub overall height of 0.269 mm, for a total of 0.419 mm). However, this information alone does not establish or

suggest the limit of what constitutes a "low profile" base plate.[1]

- That a base plate with a height of 0.454 mm is considered low profile. This is established by one of the '841 patent's dependent claims. *See* '841 patent, claim 9 (using the following dimensions: base plate thickness of 0.16 mm and hub overall height of 0.294 mm, for a total of 0.454 mm); *see also* Bogy Depo. at 83 (discussing claim). However, as above, this information does not establish or suggest the limit of what constitutes a "low profile" base plate.
- That, per the '841 specification, it is "desirable to provide a base plate that has a lower profile than a conventional base plate, a torque retention capability comparable to the prior art and a reduced pre-load change caused by the swaging process." '841 patent, col. 2:7-10; *see also* Kiblawi Decl., Ex. B (Hyatt Aff. ¶ 5) (as part of the prosecution history for the '841 patent, testifying that "there was a long felt need for the invention as evidenced by customers requiring a low profile base plate that has a lower profile than a conventional base plate, a torque retention capability comparable to existing products with a reduced pre-load change caused by the swaging process, needs that are well known in the industry wherein disk drives are becoming smaller and faster"). However, this information does not provide any explanation as to what is considered a conventional base plate.
- That, one of the references cited in the '841 patent – namely, the Braunheim patent (the '389 patent), filed two years before the '841 patent – described a preferred embodiment of a "low profile swage mount" as having a base plate height of 0.348 mm. *See* Kiblawi Decl., Ex. C (Braunheim patent, col. 6:33-48) (reflecting base plate thickness of 0.203 mm and hub overall height of 0.145 mm, for a total of

[1] Contrary to what Defendants suggest, the fact that the "typical prior art" had basically the same base plate height, *see* '841 patent, col. 4:17-17 (reflecting base plate thickness of 0.150 mm and hub overall height of 0.270 mm, for a total of 0.420 mm), does not raise confusion as to what "low profile" means. The invention claimed in the '841 patent is an *optimized* low profile base plate – optimized in the sense that the base plate meets certain geometry metric equations. The "typical prior art" could have a low profile base plate but not be optimized. Hence, reference to "typical prior art" does not define the limit of "low profile."

0.348 mm). However, similar to above, this information does not establish or suggest the limit of what constitutes a "low profile" base plate.

In its papers, IPT argues that the Braunheim patent does, in fact, provide some context as to what is not considered low profile. In support, IPT cites the following part of the Braunheim specification:

> A particular and unexpected relationship deemed critical to the successful operation of the swage mount of the present invention involves the relative diameters of the base plate opening D_{BP}, and the hub inner swaging surface D_{ID}. It has been found by applicant that if D_{ID} is at least 85% of the diameter of D_{BP}, but no greater than D_{BP}, **then the swage mount vertical profile may be dramatically reduced by at least a factor of three** while still maintaining adequate torque retention. In comparison, conventional swage mounts typically have a relationship whereby D_{ID} is no greater than 84% of D_{BP}.

Braunheim patent, col. 6:11-21 (emphasis added). IPT argues that, if the base plate height in the preferred embodiment is 0.348 mm (as set forth in Table 1 of the Braunheim specification), then a conventional base plate height is three times greater – *i.e.*, about 1.044 mm; thus, a 1 mm base plate height is not considered low profile. *See* Dennison Decl. ¶ 31(a). However, this language is not as unequivocal as IPT contends. All that the Braunheim specification appears to state is that a swage mount vertical profile may be reduced by a factor of three, but it is not clear that that is compared to a quantified vertical profile of a conventional swage mount. A comparison to a conventional swage mount is made only with respect to the relationship between D_{ID} and D_{BP}; it does not clearly establish the absolute height of the conventional (versus "low profile") swage mount. Whether the patent implicitly assumes a base plate height of 1.044 mm is not "low profile" is, at best, ambiguous.

The Court therefore looks to the extrinsic evidence presented by the parties as to what the understanding (if any) of a person of ordinary skill in the art would be. As indicated above, the extrinsic evidence presented is expert testimony and attached exhibits. Mr. Dennison is IPT's expert; Dr. Bogy is Defendants' expert.

According to IPT's expert, Mr. Dennison, the term "low profile" is used to describe certain HDDs that first came to market in the late 1980s – more specifically HDDs with a form factor (or

size) of 3.5" or 2.5", which was smaller than the "full-height" or "half-height" HDDs. *See* Dennison Decl. ¶ 22(b) (testifying that "the very first 1-inch high 3.5-inch form factor HDD came to market in 1988"); Dennison Depo. at 104 (testifying that, in 1990, the industry was largely still designing half-height and full-height HDDs). The term "low profile" with respect to HDDs was used at least as early as 1991. *See* Dennison Decl. ¶ 21(a) (noting that "[a] 1991 specification sheet for he Fujitsu M263x family of HDDs describes the designs as a 'Low-profile, 45-90 MB 2.5-inch Winchester disk drive'"); *see also* Dennison Decl. ¶ 21(b)-(d) (discussing three other HDDs described as low profile). In or about 1991, a shift began away from the half-height HDDs and toward the low profile HDDs, and low profile HDDs were in demand by the mid-1990s. *See* Dennison Depo. at 104-05. In fact, low profile HDDs "became so ubiquitous that they even dropped the term 'low profile' from the sales literature because everybody was low profile." Dennison Depo. at 105; *see also* Dennison Decl. ¶ 20. The low profile HDDs (*i.e.*, 3.5" and 2.5" HDDs) have a height of one inch; this is in contrast to, *e.g.*, the half-height HDDs which are 1.625 inches tall. *See* Dennison Depo. at 7-9. Since the late 1980s, the definition of low profile HDDs has remained the same – *i.e.*, HDDs with a height of one inch – although HDDs with lower heights have been developed. *See* Dennison Depo. at 14-15.

According to Mr. Dennison, components within low profile HDDs are also called low profile. *See* Dennison Depo. at 15-16. That is, "if [a component] fits in a one-inch [HDD], it's – it's low profile. But what has happened is we have made them a shorter and shorter Z-height [*i.e.*, vertical height] so that you can fit more disks in that one-inch form factor." Dennison Depo. at 16; *see also* Dennison Depo. at 107 (testifying that "low profile came to mean suitable for inclusion in this form factor").

Defendants' expert, Dr. Bogy, did not provide testimony that materially disputed Mr. Dennison's. For example, Dr. Bogy agreed that the term "low profile" was probably being used in the industry in the mid-1990s with respect to the form factor of disk drives and that, in the nineties, profiles of base plates (one of the components in HDDs) were often referred to as low profile as well. *See* Bogy Depo. at 60-61, 92-93, 95.

In light of the above, the Court concludes that Defendants have not demonstrated by clear

and convincing evidence that the term "low profile" is indefinite. That is, low profile components (including low profile base plates) had contextual meaning to those skilled in the art – it references those components used in low profile HDDs that were one-inch in height or less. Defendants have thus failed to show by clear and convincing evidence that a person of ordinary skill in the art would fail to understand with reasonable certainty what is meant by "low profile" base plate. *Cf. Apple Inc. v. Samsung Elecs. Co.*, 786 F.3d 983, 1002-1003 (Fed. Cir. 2015) (concluding that term "substantially centered" was not indefinite based on, *inter alia*, testimony offered by plaintiff's expert), *rev'd on other grounds by Samsung Elecs. Co. v. Apple Inc.*, 137 S. Ct. 429 (2016); *Freeny v. Apple Inc.*, No. 2:13-CV-00361-WCB, 2014 U.S. Dist. LEXIS 120446, at *13-19 (E.D. Tex. Aug. 28, 2014) (finding that term "low power communication signals" was not indefinite based on, *inter alia*, testimony offered by plaintiff's expert).

F. Construction of "Low Profile"

The issue remains as to what construction should be given the term "low profile" base plate. There does not appear to be any disputed facts that would necessitate deferral of construction of the term. *Cf. Teva Pharm. USA, Inc. v. Sandoz, Inc.*, 135 S. Ct. 831, 838 (2015) ("While we held in *Markman* that the ultimate issue of the proper construction of a claim should be treated as a question of law, we also recognized that in patent construction, subsidiary factfinding is sometimes necessary."). Taking into account both the intrinsic and extrinsic evidence, the Court finds that a low profile refers to a base plate with a vertical height small enough such that the base plate fits within a low profile HDD, *i.e.*, a HDD no taller than one inch. As indicated by the above, this definition is supported by IPT's expert, Mr. Dennison. *See* Dennison Depo. at 16 (testifying that, "if [a component] fits in a one-inch [HDD], it's – it's low profile[;] [b]ut what has happened is we have made them a shorter and shorter Z-height [*i.e.*, vertical height] so that you can fit more disks in that one-inch form factor"); *see also* Dennison Depo. at 107 (testifying that "low profile came to mean suitable for inclusion in this form factor"). Defendants present no contrary evidence.

To the extent IPT contends that a 1 mm-high base plate is not a low profile base plate, the Court rejects that construction. As Defendants point out, the Takagi patent (the '982 patent),

which was filed in April 1995 but claims a foreign application priority date of September 1991, expressly discloses a low profile HDD, *see* Takagi patent, col. 3:56-57 (stating that "[t]he present invention provides a low profile or low height disk drive"[2]), but the height of the base plate described therein is 1 mm. Even IPT's expert, Mr. Dennison, admits this. *See* Dennison Decl. ¶ 31(c) (testifying that the Takagi patent "discloses a base plate with the same dimensions as the one in the '860 Patent above, having an overall z-height of 1.00 mm").[3]

IPT asserts that the Takagi patent simply reflects an attempt to use a conventional base plate in a low profile HDD, but IPT has failed to establish that a 1 mm-high base plate is considered conventional – *i.e.*, used in the half- or full-height HDDs that preceded the low profile HDDs. Although Mr. Dennison, IPT's expert, claims that "a person of ordinary skill in the art . . . would have known that a conventional base plate, for use in the older form-factor HDDs, would typically have a total z-height of around 1mm" or greater," Dennison Decl. ¶ 30, that statement is conclusory. Mr. Dennison's declaration reflects, at most, that 1 mm-high base plates were used in the early 1990s but that does not thereby establish that such base plates were used only in half- or full-height HDDs. Such base plates were in fact suitable for use in low profile HDDs.

The Court acknowledges IPT's evidence suggesting that base plates with heights of 0.6 mm or less became more commonly used in low profile HDDs in the mid- to late 1990s. *See, e.g.*, Dennison Decl. ¶ 33 *et seq.* This evidence, however, does not negate the fact that 1 mm-high base plates could also be deemed low profile since they could fit in low profile HDDs. At most, that evidence simply reflects a trend – recognized by both parties' experts – that components, including but not limited to base plates, got smaller and smaller over time. But that did not change what qualified as "low profile" base plates at the time the '841 patent application was filed in 1998.

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[2] As Defendants point out, the height of the HDD in Takagi is actually less than one inch. *See* Takagi patent, col. 11:29-33 (stating that "[i]n accordance with the present invention, a disk drive apparatus with one hard disk having an overall height of 12.7 mm [*i.e.*, 0.5 inches] is attained. A disk drive apparatus with two hard disks having an overall height of 17.00 mm [*i.e.*, 0.669 inches] is attained by the present invention").

[3] *See also* Dennison Decl. ¶ 32(e) **[filed under seal]** [redacted]

II. CONCLUSION

For the foregoing reasons, the Court **DENIES** Defendants' motion for summary judgment and construes the term "low profile" as follows: referring to a base plate with a vertical height small enough such that the base plate fits within a low profile HDD, *i.e.*, a HDD no taller than one inch.

This order disposes of Docket No. 90.

IT IS SO ORDERED.

Dated: June 18, 2018

EDWARD M. CHEN
United States District Judge

United States District Court
Northern District of California